

ATRIAL ARRHYTHMIAS IN ASTRONAUTS – SUMMARY OF A NASA SUMMIT

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Background and Problem Definition: To evaluate NASA's current standards and practices related to atrial arrhythmias in astronauts, Space Medicine's Advanced Projects Section at the Johnson Space Center was tasked with organizing a summit to discuss the approach to atrial arrhythmias in the astronaut cohort. Since 1959, 11 cases of atrial fibrillation, atrial flutter, or supraventricular tachycardia have been recorded among active corps crewmembers. Most of the cases were paroxysmal, although a few were sustained. While most of the affected crewmembers were asymptomatic, those slated for long-duration space flight underwent radiofrequency ablation treatment to prevent further episodes of the arrhythmia. The summit was convened to solicit expert opinion on screening, diagnosis, and treatment options, to identify gaps in knowledge, and to propose relevant research initiatives.

Summit Meeting Objectives: The Atrial Arrhythmia Summit brought together a panel of six cardiologists, including nationally and internationally renowned leaders in cardiac electrophysiology, exercise physiology, and space flight cardiovascular physiology. The primary objectives of the summit discussions were to evaluate cases of atrial arrhythmia in the astronaut population, to understand the factors that may predispose an individual to this condition, to understand NASA's current capabilities for screening, diagnosis, and treatment, to discuss the risks associated with treatment of crewmembers assigned to long-duration missions or extravehicular activities, and to discuss recommendations for prevention or management of future cases.

Summary of Recommendations: The summit panel's recommendations were grouped into seven categories: Epidemiology, Screening, Standards and Selection, Treatment of Atrial Fibrillation Manifesting Preflight, Atrial Fibrillation during Flight, Prevention of Atrial Fibrillation, and Future Research. The key points discussed under each recommendation will be presented.

Learning Objectives: The audience will become familiar with the recommendations of an expert panel on the implications of atrial arrhythmias in space flight.